

The female of *Leptobasis melinogaster* González-Soriano (Odonata: Coenagrionidae)

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The female of *Leptobasis melinogaster* González-Soriano, 2002 is formally described and illustrated. Female *L. melinogaster* can be distinguished from the seven other known congeners by the shape and presence of a ventral lobe below the rounded lateral margins of the posterior and median lobes of the prothorax as well as by the dark apices on the femora.

Keywords: *Leptobasis melinogaster*; female description; Odonata; Zygoptera; Coenagrionidae; damselfly; USA

Introduction

Leptobasis melinogaster González-Soriano, 2002 was described from two males collected in the states of Jalisco and Oaxaca Mexico. It was not reported again until 2004 when a population was discovered on the King Ranch in Kleberg County, Texas, USA (Abbott, 2004). An additional population was discovered at Santa Ana National Wildlife Refuge in Hidalgo County, Texas, USA. Bailowitz, Danforth & Deviche (2009) reported it for a second time from Mexico since the initial description, finding it in Sinaloa along the west-central coast of Mexico.

The genus *Leptobasis* Selys was recently redefined by Garrison and von Ellenrieder (2010) to include *Chrysobasis* Rácenis. The genus now includes seven species diagnosed by the following combination of characters: a rounded frons, CuP reaching hind margin of wing, CuA relatively short, supplementary pretarsal claw vestigial, and the presence of a pair of chitinized, flap-like, movable processes directed posteriorly on the distal segment of the genital ligula. In their redefinition, Garrison and von Ellenrieder (2010) included *L. melinogaster* in their key to females and illustrated the mesostigmal plates, but the first formal description of the female of this species is presented here.

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Description of the female

Material

(8 ♀♀) TEXAS: Kleberg Co., Santa Gertrudis Creek, King Ranch, 2 August 2006 (1 ♀), leg. J. Sinclair & T. Langschied (DRP); TEXAS: Kleberg Co., Santa Gertrudis Creek, King Ranch, 16 October 2006 (1 ♀), leg. T. Langschied (DRP); TEXAS: Kleberg Co., Santa Gertrudis Creek, King Ranch, 17 October 2006 (1 ♀), leg. J. Sinclair (UNAM); TEXAS: Hidalgo Co., Santa Ana National Wildlife Refuge, 25 June 2005 (1 ♀), 23 May 2009 (2 ♀♀), leg. J.C. Abbott (UTIC); TEXAS: Hidalgo Co., Santa Ana National Wildlife Refuge, 9 June 2010 (1 ♀), leg. M. Reid (UTIC); TEXAS: Cameron Co., Sabal Palm Audubon Sanctuary, 8 October 2008 (1 ♀), leg. M. Reid (UTIC). Specimens deposited in the University of Texas Insect Collection (UTIC), personal collection of Dennis R. Paulson (DRP), and Colección Nacional de Insectos (CNIN), Universidad Nacional Autónoma de México (UNAM).

Head

Labrum blue-green with dark spot medially along posterior edge; anteclypeus blue-green; postclypeus green with brown oval spot in lateral 1/4; frons blue-green anterolaterally, tan medially; postocular spots large, triangular, and green.

Thorax

Anterior lobe of prothorax blue-green, tan laterally; middle lobe brown with paired green stripe paralleling median line and separated by thin stripe of brown, green spot lateral to stripe, lateral edge of median lobe green with rounded corners posteriorly; posterior lobe brown, lateral edge slightly raised and convex with posterior margin rounded (Figure 1a). Lateral edge of median and posterior lobes overlying narrow supplementary shelf. Pterothorax pale green, with brown median stripe twice as wide as brown humeral stripe, antehumeral stripe green, ventral surface cream-colored. Mesostigmal plates brown in medial half and green in lateral half, rounded laterally, concave medially (Figure 1b). Femora pale with darkened apices, tibia and tarsi pale with edges of segments outlined in brown, distal half of last tarsal segment and tarsal claws and remaining armature dark.

Wings

Wings hyaline with brown veins; pterostigma brown, a parallelogram with all sides subequal, subtending slightly less than one cell (Figure 1c), forewing with nine postnodal crossveins (10 in one ♀), 7–9 postnodal crossveins in hind wing with average of 8.

Abdomen

S1–S3 green, S4–S10 blue laterally. S1 with brown medial spot, S2 with brown spot dorsally at distal fourth of segment and brown stripe along middorsal carina. S3–7 black dorsally with expansion laterally in distal 1/7th–1/6th of segment. S8–S10 with brown dorsal stripe not reaching distal end of segment and with pale median notch at posterior end (Figure 1d). Posterior edge of S7–9 with blue ring. No vulvar spine on S8. Distal edge of outer valve of ovipositor serrated. Ovipositor valves relatively straight, extending well beyond cerci (Figure 1e).

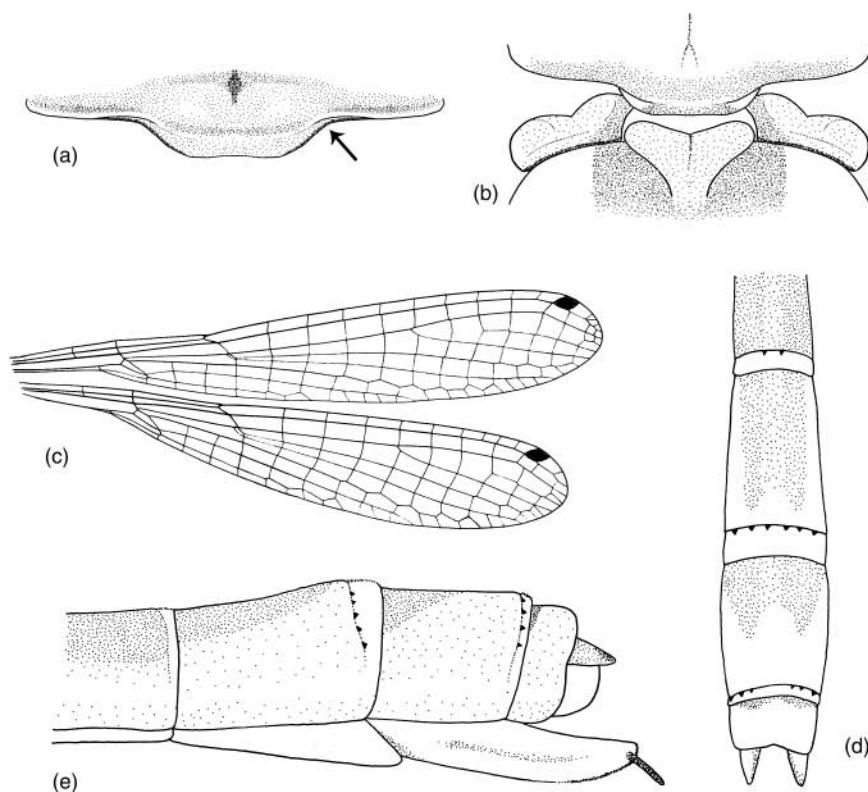


Figure 1. *Leptobasis melinogaster* female: (a) posterior margin of prothorax, with arrow indicating supplementary shelf; (b) mesostigmal plates; (c) wings; (d) S8-S10, dorsal view; (e) S8-S10, lateral view.

Measurements (in mm)

Total length 35–40; abdomen length 29–33; hind wing length 18.5–21.5; ovipositor without stylus 1.54–1.85; stylus of ovipositor 0.30–0.36.

Coloration in life (Figure 2)

Mature females with green eyes; intense green on antehumeral stripe; lateral color of abdomen merging from green to blue posteriorly. Juvenile individuals have same color pattern, but eyes tan and greens and blues are replaced by tans.



Figure 2. Female *Leptobasis melinogaster* showing colors in life: (a) mature; (b) juvenile.

Diagnosis

Leptobasis melinogaster females can be distinguished from the seven other known congeners by the shape and presence of a ventral lobe below the rounded lateral margins of the posterior and median lobes of the prothorax. Dark apices of femora are unique; all other female congeners have largely pale femora.

Biological notes

Males are typically more in evident at ponds, but females can be abundant. Both sexes tend to perch on overhanging branches and vegetation, often resting at heights of 1–2 m. They fly through these tangles, making them difficult to follow. It is unknown whether they survive extended dry periods as adults or in the egg stage. No global conservation ranking has been assigned to this species, but Abbott (2011) assigned it a state ranking of S2 (Imperiled because of rarity [often 6–20 extant occurrences] or because of factors making it vulnerable to extinction for Texas).

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References

- Abbott, J.C. (2004). A summer for the record books in Texas. *Argia*, 16, 16–17.
- Abbott, J.C. (2011). *Damselflies of Texas: A field guide*. Austin, TX: University of Texas Press.
- Bailowitz, R., Danforth, D., & Deviche, P. (2009). West Mexico updated. *Argia*, 21, 15–18.
- Garrison, R.W., & von Ellenrieder, N. (2010). Redefinition of *Leptobasis* Selys with the synonymy of *Chrysobasis* Rácenis and description of *L. mauffrayi* sp. nov. from Peru (Odonata: Coenagrionidae). *Zootaxa*, 2438, 1–36.
- González-Soriano, E. (2002). *Leptobasis melinogaster* spec. nov., a new species from Mexico (Zygoptera: Coenagrionidae). *Odonatologica*, 31, 181–185.